What is claimed is:

1. A method for producing α-hydroxy acid ammonium salt represented by $RCH(OH)COO^-NH_4^+$ of general formula (II) characterized in that, when converting an α-hydroxynitrile represented by RCH(OH)CN of general formula (I) (wherein, R represents a hydrogen atom, a C_1 to C_6 alkyl group which may be substituted, a C_2 to C_6 alkenyl group which may be substituted, a C_1 to C_6 alkoxyl group which may be substituted, an aryl group which may be substituted, an aryloxy group which may be substituted or a heterocyclic group which may be substituted) to an α-hydroxy acid ammonium salt represented by $RCH(OH)COO^-NH_4^+$ of general formula (II) (wherein R is the same as previously defined), a microbial catalyst originating in a microbial strain is used that is capable of maintaining the average production rate of the α-hydroxy acid ammonium salt represented by general formula (II) at at least 100 μmol/min per g of dry microbial cell weight for 14 days or more without adding fresh microbial catalyst.

2. A method for producing α-hydroxy acid ammonium salt represented by general formula (II) according to claim 1, wherein the microbial catalyst originating in a microbial strain is able to accumulate 20 to 60% by weight of the α-hydroxy

acid ammonium salt represented by general formula (II) in the reaction system.

3. A method for producing α-hydroxy acid ammonium salt represented by general formula (II) according to claim 1 or claim 2, wherein the microbial catalyst originating in a microbial strain is a microbial catalyst originating in a microbial strain belonging to the genus Arthrobacter.

4. A method for producing α-hydroxy acid ammonium salt represented by general formula (II) according to claim 3 wherein, the microbial strain belonging to the genus Arthrobacter is Arthrobacter sp. NSSC204 or a microbial strain derived from the strain.

5. A method for producing α-hydroxy acid ammonium salt represented by general formula (II) according to any of claims 1 through 4, wherein the microbial catalyst originating in a microbial strain is a microbial cell, treated microbial cells of the microbe, an extract extracted from the microbe or enzyme isolated from the microbe.

6. A method for producing α-hydroxy acid ammonium salt represented by general formula (II) according to any of claims

1 through 5, wherein the C_1 to C_6 alkyl group which may be substituted is a C_1 to C_6 alkylthioalkyl group or a C_1 to C_6 hydroxyalkyl group.

7. A method for producing α-hydroxy acid ammonium salt represented by general formula (II) according to any of claims 1 through 5 wherein, the aryl group which may be substituted is a phenyl group.

8. A method for producing α-hydroxy acid ammonium salt represented by general formula (II), wherein the α-hydroxynitrile is lactonitrile, acetone cyanohydrin, mandelonitrile or 2-hydroxy-4-methylthiobutyronitrile.

9. A microbial strain characterized in that, when converting an α-hydroxynitrile represented by RCH(OH)CN of general formula (I) (wherein, R represents a hydrogen atom, a C_1 to C_6 alkyl group which may be substituted, a C_2 to C_6 alkenyl group which may be substituted, a C_1 to C_6 alkoxyl group which may be substituted, an aryl group which may be substituted, an aryloxy group which may be substituted or a heterocyclic group which may be substituted) to an α-hydroxy acid ammonium salt represented by $RCH(OH)COO^-NH_4^+$ of general formula (II) (wherein R is the same as previously defined), is capable of maintaining

the average production rate of the α-hydroxy acid ammonium salt represented by general formula (II) at at least 100 μmol/min per g of dry microbial cell weight for 14 days or more without adding fresh microbial catalyst.

10. A microbial strain according to claim 9 wherein, the microbial strain is able to accumulate 20 to 60% by weight of the α-hydroxy acid ammonium salt represented by general formula (II) in the reaction system.

11. A microbial strain according to claim 9 or claim 10, wherein the microbial strain is a microbial strain belonging to the genus Arthrobacter.

12. A microbial strain according to claim 11, wherein the microbial strain belonging to the genus Arthrobacter is Arthrobacter sp. NSSC204 (FERM BP-7662).

13. A microbial strain according to claim 11, wherein the microbial strain belonging to the genus Arthrobacter is a microbial strain derived from Arthrobacter sp. NSSC204.